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Che Secrets of the Sun

and

Starry Universe.



Rogers

1900.

A STUP NORMERBOR IN SCIENCE.

From the Evening Observer, Sept 27.

No greater fallacy in science can be conceived of than the theory that the sun is just what it appears to be, i. e. inconceivably hot and of dazzling brilliancy. This theory cannot stand for a moment in the presence of the fact that the mountains are covered with perpetual ice and snow.

The lesson of the ice-capped mountain-top teaches that cold rapidly increases in the direction of the sun, and inferentially, that the universal space is inconceivably cold and utter dark-"Outside of the bright envelope of each celestial sphere is found, only the black of infinite space." (Flammarion.) Neither heat nor light can exist in the presence of such universal cold and darkness. It therefore conclusively follows that some agency, or principle, which is neither hot, nor bright, passes instantaneous, and free, to and fro, between the sun and earth, and between all the stars of the heavens and arouses the atmosphere of each to heat, light and power. A new history, a new constitution, and new functions, stand revealed for all atmospheres. so-called, sunheat, and light, can be found only in atmosphere, where alone they are needed: and the sun-dazzle can have no existence, save in the eye of the observer.

Heat as a universal energy, becomes total failure. since there a. sufficient heat in the not whole universe, outside of the earth and all star-worlds to boil a kettle of water, neither sufficient light to light a kitchen. The theory of an incandesceut, ever-burning sun, therefore becomes a stigma upon science and a reflection upon the intelligence of the age.

The principle which hereafter must supply the place of heat in the great cosmical scheme, is not difficult to determine. Thus, the earth is a magnet, filled to repletion with the magnetic, or electrical energy. The sun and stars are magnets, polarized in immensity. The sun if isolated in space, and motionless, would possess no power to act at infinite distances, but the sun IN MOTION, acting and retro-acting with neighboring star suns and stars, becomes a dynamo-magnet, with all which that term implies. Thus 100,000,000 dynamo-magnet stars supply the motive power of the universe.

MOTION, as a COSMICAL PRINCIPLE, now asserts itself, and the ELECTRICAL ENERGY due to CELESTIAL MOTION; i. e the mass, the motions and the velocities of the heavenly bodies) becomes the universal force. The prophetic words of Aristotle, the so-called "Father of Science" now, after a period of 2300 years, are verified: "All force is due to motion, the impulse of the motion of the heavenly bodies."

HENRY RAYMOND ROGERS. Dunkirk, N. Y.



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Very truly spours Henry Raymond Cogers

The Secrets of the Sun

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BY

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THE SECRETS OF THE SUN.

"The physical constitution of the sun is practically solved when we are able to explain all solar phenomena by laws of physics which we see in operation ground us."

-Simon Newcomb.

When we look upon the heavens on a cloudless night we see a few thousand stars, but the astronomer with his big telescope brings into view nearly 100,000,000 bright star-worlds. The astronomer tells us that those star-worlds are mainly suns, and that our sun is one of those stars, and rather a small one at that.

The question, What is the sun? has been asked for thousands of years, but never has been answered satisfactorily. The distinguished author of "Solar Physics," Mr. Lockyer, tells us: "The riddle of the sun yet remains unread."

It will be of great interest and much profit to learn the opinions in regard to the sun which were held at an early period in the history of science; a period which was made illustrious by such names as Plato, Aristotle, Socrates, and others. At that time the following strange fancies were held, viz: "The sun is a living god who daily drives

his golden chariot across the skies." Again: "The sun is a mass of ignited stone as large as the Peloponessus." Again: "The sun instead of being a globe is as flat as a leaf." Aristotle, the so-called *Father of Science*, believed the sun and stars to be living bodies, eminently partaking of the divine nature. The sun was regarded as immaculate, spotless, and worshipped as a god.

The invention of the telescope, 300 years ago, changed all theories in regard to that body. This instrument revealed the presence of dark spots, and groups of spots. apparently located upon its face. The theory of an immaculate sun was shaken, the religious sentiment of the period was shocked, and man became more puzzled than ever before.

But what shall we say of the theories of the sun which everywhere are held today? Three hundred years have passed since the invention of the telescope, yet no satisfactory progress has been made towards revealing the nature and constitution of the sun, or the secret of its actions.

The theories of the sun of the present day are not less strange than those of 2,300 years ago. The following statements are given in the words of authorities who occupy high positions in this field. For example: "The sun is neither solid, nor liquid, but gaseous, so that our great luminary is nothing more than an immense bubble."

Our sun, 1,250,000 times as large as the earth, is thus

asserted, in all seriousness, to be literally and truly a bubble, a gasbag. Again: "The sun is more than a million times as large as the earth, and hotter than any furnace that man may make, while inside all is vaporized." Again: "The sun is incandescent, consuming, slowly dying." Again: "The sun is daily squandering an amount of heat and light sufficient to supply 2,000,000,000 globes as large as the earth." The most stupendous wastefulness which science permits us to contemplate.

The theory that the sun is just what it appears to be, *i. e.*, inconceivably hot, and of dazzling brightness, is not questioned today. In all illustrations of that body it is shown with a bright face,—Plate I—and with bright lines radiating outwards from it in all directions.

These bright lines imply that actual heat, and light, developed within the sun itself, radiate in all directions and to all distances into space around it.

Every theory of the sun hitherto asserted has been founded upon the hypothesis of an incandescent, everburning body. The astronomer estimates the temperature of the sun as high as 5,000,000 degrees (Fahr). He tells us that the process of combustion will eventually leave nothing of that glorious orb to tell the tale of its early grandeur and usefulness.

But the astronomer and the scientist have made vast errors in their calculations. The sun whilst performing its part in the great work of heating and lighting its satellites for a period of thousands, or millions of years, never has perceptibly diminished a single foot in its diameter, nor a single foot-pound in its energies. The distance between the sun and the earth never has been known to

THE SUN OF PRESENT SCIENCE.

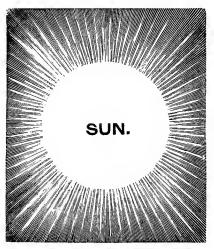


PLATE I.

change. The sun, moon, and earth, are so unvarying in their mass, and in their motions, that eclipses are calculated with accuracy for centuries, backwards and forwards.

Again: these authorities have strangely ignored the fact

that if the sun possessed the intensity of heat claimed for it, its whole body and substance would quickly become resolved into its original elements.

But scientists differ widely in their opinions in regard to the constitution of the sun. That the earth, the sun, and all the starry worlds are constituted alike, is now the belief of some of the highest authorities in this field. Thus, it is asserted by distinguished authorities that, "The sun is composed of the same materials as the earth." Again: "Nothing really distinguishes our sun from the multitude of stars which shine in the heavens." Again: "What the earth does is done by all the spheres." The identity of constitution of the sun and stars is no new conception. Aristarchus of Samos, 2,200 years ago, held that: "The sun and stars are of one and the same nature." As to the question of life upon other celestial bodies, it can be neither proved nor disproved, but it is more agreeable to the mind, and more in accordance with the progress of science to believe that intelligent beings occupy the starry worlds above and around us.

Science teaches that the universal space is inconceivably cold. At one and a half miles upwards, in this latitude, snow and ice never melt, and at seven miles, the highest point ever reached by man, the thermometer stood at twelve degrees below zero, near midsummer. An automatic thermometer, sent up in a captive balloon, registered

104 degrees below zero at the elevation of ten miles.

The temperature of the universal space is variously estimated at from hundreds to millions of degrees below zero. Mr. Secchi, the late distinguished head of the Roman Observatory, said: 18,000,000 degrees below zero. The sun, surrounded by such coldness, cannot send forth a single ray of heat. Like the earth, its own necessary heat must be supplied from some source, or sources, outside of, and far away from itself.

Sunlight is due to the same causes as sunheat, and subject to the same laws; sunlight therefore diminishes in the same ratio sunward. Flammarion says: "Outside of the bright envelope of each celestial sphere, is found only the black of infinite space." At three and a half miles upwards the sun's rays no longer produce the rainbow colors of the solar spectrum. At that elevation the spectroscope shows only the yellow, and that, too, without lines, so says Mr. Janssen, one of the highest authorities in this field. Above three and a half miles, a limitation of the spectroscope is reached. At six or seven miles the sun becomes an object pitiful to behold. Its heat and dazzle have all gone out of it. Its golden hue has faded and given place to an appearance no brighter than our moon. We now learn that the sun's showy plumage, i. c., its dazzle and brilliancy, are not its own, but only borrowed -so to speak.

It is well known to scientists that the universal space is utter darkness, yet the whole world today remains in ignorance of this fact. This is a stigma upon science, and a reflection upon its promoters. The dictates of reason should have led to an earlier assertion and application of this great principle, i. e.. The black of infinite space. The fact of the universal darkness of space, is fatal to every theory of the sun ever yet advanced. This pictured absurdity, Plate I, this bright-rayed deception, still holds full sway over the minds of men of every degree of intelligence, the cultured and the simple alike.

The coming sun—the sun of the future, is illustrated in Plate II. It is seen as surrounded by universal darkness and the stars. No light can leave its borders. No light can come from the sun to the earth through 93,000,000 miles of utter darkness of space.

That the sun may be dark, cool, and habitable, and filled with life, intelligence and beauty, like unto the earth, is shown in facts already well known, and which stand unquestioned.

Thus, the small school-boy, and school-girl, in their early study of geography, are taught that the mountaintops are covered with perpetual ice and snow, that cold rapidly increases in the direction of the sun. These facts positively demonstrate that neither heat nor light can come from the sun to the earth. Thus, the proverbial

school-boy, and school-girl, armed with their little textbook, may overturn and destroy every theory of the sun ever advanced. What a spectacle! What a reproach to the age!

THE SUN OF THE FUTURE.



PLATE II.

The fact that the sun may be even dark, cool and habitable, was first positively demonstrated 300 years ago. Three hundred years ago James Metius, a Hollander, an obscure maker of lenses, became an inventor, and a dis-

coverer. Neither his invention, nor his discovery ever has been equalled. According to Galileo, Metius invented the telescope. To Galileo has been mainly accredited this invention, but he tells us that he read a description of an instrument then recently invented by a Hollander, and from this description he was enabled to construct his first instrument.

But the telescope with its marvelous powers, and its wonderful revelations, was not the highest achievement of Metius. He constructed a lens from a piece of ice, and with this ice-lens, he converged the rays of the sun to a focus and set fire to combustibles.

No person with a competent faculty of thinking, or reasoning, will venture to assert that actual heat, or light, can come through 93,000,000 miles of cold and darkness of space, and pass through a lens of ice, and set fire to combustibles.

Metius could not then know the importance of his discovery, and this ice-lens phenomenon has come down through the centuries unexplained. It has been my pleasure to first assert its true value and significance.

The lesson of this little ice-lens now becomes of stupendous import. It reveals one of the most vital principles in science which the mind of man may conceive of, viz: that *something* which is neither hot, nor bright, passes instantaneous and free, to and fro, between the sun and earth, and between all the stars of the heavens, and arouses the atmosphere of each, to heat, light and power.

This ice-lens experiment thus teaches that the earth and all stars are heated and lighted by some agency, and through some process, which science never has explained.

This wonderful something, this spirit, or soul of the universe, which is thus found capable of acting instantaneously between the 100,000,000 stars, is no longer a mystery. Today it is demonstrably shown to be electrical Electricity is the universal force. Electricity can meet every requirement on the part of such a universal force. All physical phenomena, every form and manifestation of force, without a single exception, may be traced to the mere transformation of the electrical energy. Since but one force exists in nature, and that force is purely electrical;—sunheat, sunlight, gravity, all vital action, all chemical action, wind, sound, evaporation, decomposition, crystalization, etc., find their explanation in the application of the electrical principle. This, today, is demonstrable.

How electricity may be developed on a scale adequate to the demand for force for a universe, may be readily explained. The earth is a magnet, with a magnetic axis and a north, or positive-pole, and a south, or negative-pole. This earth-magnet is filled to repletion with the electrical principle. This principle extends outwards be-

yond the earth's visible surface, and largely, or mainly, constitutes the atmosphere. The sun and all stars are magnets polarized in immensity.

The sun-magnet if isolated in space and motionless, would exercise no more power over its celestial neighbors than if it were a microbe, but the sun in motion, acting, and retro-acting, in concert with the earth and other celestial bodies, becomes endued with its vast powers. Thus, the great sun-magnet and all star magnets, through their motions, become dynamo-magnets, with all which that term implies. What stupendous results are embodied in this fact. Nothing less than a reconstruction of physical philosophy upon a true principle, a principle at once the highest, grandest, and the most sublime, in the whole domain of cosmical science, i. e., THE ENERGY OF CELESTIAL MOTION.

This principle is not new: Aristotle, the so-called Father of Science, held this conception, and stated it in the following words, viz: "All force is due to motion—the impulse of the motion of the heavenly bodies." He could not then demonstrate his speculation to be true, and it has come down through 2,300 years unexplained; but twenty-five years of study in this field, has enabled me to verify and fully demonstrate this prophetic inspiration.

Henceforth, the so-called "burning," "consuming," "slowly-dying," star-suns, must give place to suns

in motion, and the dazzling, cheating, wasteful starsuns of present science, must give place to suns heated and lighted without expenditure, and without waste. The source of the universal force is found in the impulse, or power, which first set the stars in motion in vacuous space. Science teaches that a body once set in motion in vacuous space must continue to move onward with its original velocity forever.

This method of heating and lighting the universe of stars may be justly called, the *Divine method*.

The sun and stars are not idle, they were not made simply to gaze upon. They do actual work as they go each in the ratio of its mass, its motions, and its velocities. The process by which the sun and stars do their work, is illustrated in the following Plate III. If the lines a. b. be drawn from the sun to the earth tangent to both, these lines will enclose a tapering space with the sun at the big end, and the earth at the small end, giving to the space the form of a truncated-cone. Within this space there is an incessant circulation going on, to and fro, and heat, light, and gravity, are produced as the result of electrical currents thus playing between the sun and earth. In this retro-action is embodied a key to the new philosophy.

The sun, 2,500,000 miles in circumference, turns upon its axis with the velocity of 100,000 miles per day, and the earth rotates with the velocity of 25,000 miles per day. It

is a principle in electrical science that two bodies moving, or rotating near each other, excite and set in motion electrical currents. This principle acts as well on the celestial scale. As a consequence of this double-rotation, electrical

THE SOLAR CONE, OR CONE SPACE.

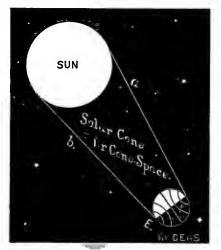


PLATE III

currents come and go instantaneous, invisible, and free through the 93,000,000 miles of cold and darkness of space.

It is a principle in electrical science that a body susceptible to electrical excitation if placed in an electrical current, becomes endued with electrical power. The sun and earth form constituent parts in the *terra-solar* circuit and thus become the embodiment of electrical powers. This electro-motive, gravitative force, has proved so exact and uniform that the distance between those bodies never has been known to change a single metre.

The currents of the terra-solar circuit meet their resistance first in our atmosphere. Without such resistance on the part of the atmosphere, the electrical sun-currents would remain invisible, and powerless, and there would be neither heat, nor light at the earth. In the collision which takes place between these currents and the atmospheric cushion, both the currents and the atmosphere become aroused to heat and brightness. The atmosphere thus performs the part of a vast carbon, an aerial blanket carbon, so to speak, and through the resistance which it offers to the passage of the electrical sun-currents, heat, and light, are produced at the surface of the earth, where alone they are needed. Every one of the 100,000,000 stars is surrounded by just such an atmospheric cushion, and through its electric-lighted atmosphere, each starry body becomes visible from the earth and other stars.

Electrical currents cannot pass from star to star, or from atom to atom, except in a circuit. The electrical sun-currents, after exciting our atmosphere to heat and light, then proceed onward into the earth and develop

therein its lava-heat, and its gravitive effects. Thus gravity which holds the star-worlds in all their relations, is purely an electrical phenomenon, due to electrical retroactions between the earth and sun, and between star and star throughout the universe.

From the earth, these currents return to the sun (Plate III), in their inevitable circuit, and perform at that body identically the same functions as at the earth. Thus, through the *resistance* which they meet at the sun, they arouse that body and its atmosphere to heat, light, and gravitative and other electrical effects. The earth, through *its* motions, therefore contributes to the heating and lighting of the sun, in identically the same manner that the sun contributes to the heating and lighting of the earth; each in the ratio of its mass, and its velocities. The planets and all satellites contribute to the supply of the sun.

Scientists hitherto have failed to apply the law of conservation of force in explanation of the relations between the sun and earth, and between all star-worlds. In the study of physical philosophy hitherto, this law has been wholly ignored and disregarded. This law is exemplified in electrical retro-actions. In this *electrical return-current* to the sun is involved one of the most vital principles in cosmical science. Without such action of inter-stellar return-currents, neither the earth, the sun, nor indeed the very universe, could exist for a single hour.

MOTION, in its new relations, now becomes a subject of stupendous import. Whether expended upon its smallest, or its grandest scale—whether on the scale of atoms, or star-worlds, motion reveals most magical effects.

The coming cosmical system dates its origin back 2,500 years, to a motion of the simplest kind. This slight motion opens up to the world a new creation, a new universe. Thus, twenty-five hundred years ago, a spirit, or soul, a vital essence, was born unto mankind, the like of which never before had been known. From the effects of a gentle motion expended upon a piece of mineral, a new existence leaped into tangible form, and filled the piece of mineral. This new-comer reached outwards beyond its mineral confines, and seized upon objects and drew them unto itself, without visible agency. The astonished beholders called this new creation,—the amber soul. This bit of amber with its divinely created soul, gives to the world today, a new cosmology.

Very significantly, and fittingly, this birth into the world of human knowledge, was recorded upon the annals of science by the hand of the wisest man, of the most learned and cultured nation of antiquity,—viz: Thales of Miletus, the wisest of the seven wise men of Greece.

MOTION, on a larger scale, produces most striking results. After a frictional motion of rubbing the feet

upon an animal-skin rug, or a woolen carpet, a gas-jet may be lighted with the point of a finger.

The motion of a fine current, or jet of air, with the velocity of five miles per minute, will quickly dissolve a bar of iron one inch in diameter. The moment the jet of air touches the bar, it becomes changed as if by magic. Such a bar can be melted by the strongest furnace-heat, only after several minutes.

Again: If a thin sheet of iron, or steel, be cut in a circular form, forty-two inches in diameter, and made to rotate with the velocity of five miles per minute, it will quickly cut off a bar of hardened, polished steel three inches in diameter, without touching the bar which i severs. The drops of steel which fall from the cut are not hot. (The bar must be made to rotate in the opposite direction from that of the plate.)

The stupendous results of *motion*, on the terrestrial scale, are seen in the action of the falling waters of the diminutive Niagara river. The waters of that river are neither hot, nor bright, yet they are capable of developing heat, light, and power, in any part of the world where the necessary connections are practicable. For example, in Buffalo, in New York, in London, or in cities in China, or Japan, 10, or 12,000 miles distant.

The dynamo-electric machine at Niagara Falls, thus becomes to us the interpreter of universal phenomena. It teaches that electrical energy, generated through the action of a dark, cold, body of water, may develop heat, light, and power, at a distance from the seat of its activity. What can thus be wrought by us artificially, and in a small way, may surely be done naturally, and in a tremendous fashion by the great forces of the sun. The dynamo of the falls of the Niagara river acts electrically. and the energies of the sun and the 100,000,000 star-dynamos are as purely electrical.

Most wonderful to relate, not one of the sun's grandest phenomena is found located at that body itself. Gravity becomes developed through the electrical retro-actions of sun and earth, each in the ratio of its mass and its velocities. It therefore cannot be located at the sun alone. Sunheat can be found only in the lowest strata of the atmosphere, and sun-dazzle becomes developed only upon the retina of each individual observer. The corona is delusive. The unerring camera shows some of the brightest coronal rays as located on the earth-side of the moon, and near the centre of that body. This fact is conclusive. It shows that the corona is located in our atmosphere. Mr. Lockyer says: "I confess the conviction that the corona is nothing else than an effect due to the passage of sunlight through our atmosphere." The socalled solar prominences, or red-flames, with their delicate and varying shades of color, and the graceful curves

of their movements, cannot be discerned through 93,-000,000 miles of darkness of space. A distinguished spectroscopist tells us: "The air, the clouds, everything between us and the dark moon, gives the same spectrum as



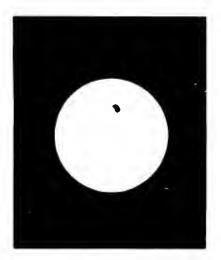


PLATE IV.

we get from the prominences themselves. Like the corona, this phenomenon must be located in our atmosphere, and due to electrical causes."

The sun-spot is not all that fancy paints it. That this,

too, is an optical illusion is now demonstrable. Sun-spots are pictured, and described as black (Plate IV), yet science teaches that the darkest part of a spot is five or six thousand times as bright as an equal area of the moon and the face of the moon is not black. Sun-spots sometimes come instantly, and go instantly. Sometimes come in groups. There are bright spots sometimes seen. Two astronomers separated by a long distance, were watching a large spot, when suddenly there appeared upon the surface of the dark spot, two bright spots, brighter even than the sun itself. These bright spots moved over the face of the dark spot with the velocity of seven thousand miles per minute, for five minutes, and then suddenly disappeared. Simultaneously with the appearance of the bright spots over the dark spot, violent electrical effects occurred at the earth. An operator in Norway was stunned and his machine set on fire; a line of fire followed Bain's electric pen in Boston; telegraph operators received shocks both in this country and abroad, and automatic electrical instruments were disturbed over both continents. This is proof of an electrical relationship between the so-called sun-spots and the earth.

Our late distinguished astronomer, Prof. Peters, when in Italy, saw a rapidly-disappearing sun-spot, and the changes which he described were evidently electrical in their character; and from the velocity implied in those changes they could by no possibility have taken place at the sun itself, or beyond our atmosphere.

The astronomer in making his illustrations of sunspots, draws upon his imagination and produces objects most fanciful and misleading. For example, a so-called typical sun-spot designed for illustrating astronomical

TYPICAL SUN-SPOT.



PLATE V.

works, has been formed from the most striking parts of several different spot-photographs (Plate V). This manufactured sun-spot, is thus confessedly, a perversion of fact, and a stigma upon science. The idea that such a clearly defined and strikingly beautiful object can be discerned through 93,000,000 miles of utter darkness, and through the blackened eye-piece of a telescope, is irrational.

Scheiner was one of the first to observe sun-spots

through a telescope, and was thus uncontrolled by theories. He held it impossible that they could be on the sun itself, and imagined some of them to be "as far from the sun as the Moon, Venus or Mercury."

The part which the atmosphere performs in its cosmical role, reveals a history essentially new. The mere oxygen, and nitrogen of the chemist, no longer meet the demands of an atmosphere of such stupendous and varied activities. In the formula of the chemist the atmosphere is made to consist of about 4-5 nitrogen, and 1-5 oxygen. No place is left for any other *substantial* ingredient. Electrical science teaches that the earth-magnet, like all other magnets, is filled to repletion with the electrical principle, and this principle reaches out beyond the earth's visible surface and mainly constitutes the atmosphere.

While science asserts that the atmosphere is a vast reservoir of the electrical principle, it fails to recognize the fact that electricity is *material*. That electricity is *substantial* is shown in the fact that it may be amassed. condensed and rarified, and mass, condensation and rarefaction are properties *inseparable* from *matter*. Thus true science compels the recognition of the material character of electricity. With such recognition begins a new career for the atmosphere, and a new interpretation for the whole universe.

Without an electrically constituted atmosphere, to be

aroused into activity by electrical *sun*-currents, or *star* currents, no star would be visible, and no life could exist in any star-world. Therefore, without electrically heated and lighted star-atmospheres, the universe would be a chaos.

Another of the secrets of the sun which science neve has explained, is now revealed in the philosophy of the earth's rotation. The cause of the earth's rotation was discovered by me and announced December 19, 1880. It was learned through the teachings of an electrical plant, the phytolacca electrica. Thus, at two o'clock P. M., the electrical powers of this plant are most active, and during the night this condition changes, and at two o'clock, A M., it becomes electro-negative, and almost without power. The lesson of this electrical plant teaches that the atmosphere and the earth's surface are most electro-positive at two o'clock P. M., and most electro-negative at two o'clock A. M. Thus, at two o'clock P. M., the great electrical sun-current on the one part, and the earth's surface on the other part, being in like electrical conditions, viz: electro-positive, mutually repel each other, and the consequent bush moves the earth in rotation. The rotating earth turning eastward, is continually carrying its negative condition of the night into the field of the positive sun-current, and a mutual attraction takes place with a consequent pull upon that side. Thus, is generated the process of an incessant attraction, on the east side, and repulsion, on the west side, giving to the earth its axial rotation.

The sun's action in causing the earth's annual pathway to be elliptical, has not been explained by science. The sun and earth moving in space are held in their relations through electrical polarity. Thus, from June to December, the earth's south—or negative—pole, is turned towards the positive sun-current, and those bodies are drawn into closest proximity through electrical attraction. From December to June, both the geographical and electrical relations being reversed, electrical repulsion takes the place of attraction and the earth is carried 3,000,000 miles further away from the sun.

Up to the present time all treatises in science have recognized nothing in gravity except attraction, but, since gravity is purely an electrical phenomenon, repulsion becomes equal with attraction as a factor in this problem. The degree of the ellipticity of a planetary orbit is determined by the degree of inclination of its magnetic axis to the ecliptic. Thus the secret of a repulsive power existent at the sun, stands revealed.

The secret of the *Seasons*, is embodied in the philosophy which explains the cause of the earth's elliptical orbit. The inclination of the earth's magnetic axis is somewhat greater than that of its geographical axis. If

the earth's magnetic axis were parallel with its geographical axis and at right angles with the ecliptic, the length of all days and nights would be equal, and everywhere twelve hours long, and one perpetual summer time would exist all over the earth. The greatest heat would be found at the equatorial belt, and no great masses of ice would be found upon the earth. Thus the changes of the sea sons,—Springtime, Summer, Autumn and Winter are due to electrical causes; thus another secret of the sun stands revealed.

No more puzzling secret of the sun and stars ever has disturbed the philosophic mind than the action of force at a distance, and without an actual medium of transmission. This secret is now revealed in the fact that force acts instantaneously, and electrically, from sun to earth, and from star to star, throughout the universe. Hypothetical ether is no longer required in cosmical processes.

Two great cosmical systems in strange and striking contrast now confront us, viz: first, the "incandescent," or "fireball," system which has stood unquestioned for ages; and second, the electrical system—the creation of the past quarter of a century.

The former system rests upon BURNING as a cosmical principle, the incessant burning of stars, and upon HEAT as the universal force. Science has provided no other explanation. Yet heat sufficient to boil a kettle

of water, never has been found in the whole universe, outside of each starry atmosphere. This fact alone becomes fatal to every theory of the sun ever advanced. Thus, the "fireball" theory of the sun comes to its merited cand.

The electrical philosophy of the universe is founded upon MOTION as its highest principle—the motions of the 100,000,000 star-worlds, and upon ELECTRICITY 33 the universal force. Every requirement for a new coscology is met in these principles, when carried to their all and legitimate sequence. The Electrical Energy of clestial Motion therefore constitutes the Motive-Power the Universe, and, consequently, Electricity becomes the Universal Force. These principles open up to the world a new epoch in the history of science.

Thus, of all the works in nature there is none which sustrates more clearly and forcibly a Divine source, than self-heating, self-lighting, and self-sustaining power, with which our star-sun and all star-worlds are provided

In the foregoing explanations we have endeavored to wrnish an amount, and kinds of data, sufficient to compel higher philosophy of the universe than any hitherto ad need. We have presented such new cosmical principles will, if legitimately and fully applied, suffice for a basis for such a system.

In view of present knowledge of the se-

CRETS OF THE SUN, the "fireball" theory of that body becomes a burlesque—a travesty upon science. In the early future the process of supplying the earth and all star-worlds with actual heat and light, transmitted through millions and billions of miles of inconceivable cold, and utter darkness of space, will be referred to only in words of keenest ridicule.

Finally the foregoing statements of fact and philosophy conclusively demonstrate that three well known cosmical principles, viz: 1, the rapid increase of cold sunward; 2, the darkness of the universal space; and 3, the energy of celestial motion, if placed in their natural relations and carried to their legitimate and rational sequence, determine the necessity for a reconstruction of the philosophy of the physical universe.

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Secrets of the sun.

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